

CalPERS ASSET LIABILITY MANAGEMENT WORKSHOP
SEGMENT 2

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Host: Chairman George Diehr
Guests: Lorne Johnson, Eric Baggesen, Ted Eliopoulos, Curtis Ishii,
Joncarlo Mark

Joseph Dear:

As we've said several times one of the new tools and perspectives we're trying to bring to bear on asset allocation is to understand how portfolios will perform under different economic conditions. And Farouki's going to introduce Lorne Johnson who is a part of the Asset Allocation staff to describe exactly how we intend to do that. Farouki?

Farouki Majeed:

Yes uh, without further adieu I shall do that. This work was part of the (inaudible) analysis that was conducted prior to uh, uh, recommending this new, this new asset allocation so it informs that framework and that process. So with that I'd like to turn this over to Lorne Johnson who is our Portfolio Manager in the Asset Allocation Unit.

Lorne Johnson:

Thank you Farouki. As Farouki mentioned this presentation is a review of material that has been previously presented. There's an extension of some of that uh, and that material specifically is considering the investment performance of different, different asset classes under different economic scenarios; growth and inflation specifically. And the findings of this analysis I believe provide the basis for the alternative asset allocation in that we can categorize asset classes by primary economic drivers, better understand the risk to the portfolio under some economic scenario that we can't possibly know but that if we knew that economic scenario we could perhaps know a little better what the performance of our asset classes was going to be.

So moving into slide 1 here asset returns vary substantially depending on economic conditions and in this case thinking just about growth and inflation when we have weak periods of forward looking economic growth real returns to risky assets are on average negative and during periods of high inflation real returns on most assets perform poorly. The exceptions historically are inflation protected securities, TIPS, and commodities.

Starting with growth the expected performance of many CalPERS asset classes is conditional on the prevailing economic growth regime. And what do I mean by expected? I don't mean that uh, it's a forecast on what we think the scenario's going to be. It's if I told you if the economy is slowing down what kind of returns do we expect? If the economy is growing what kind of returns can we expect? Now we can divide that uh, with a methodology I'm going to present here and we see that the outcomes are quite divergent. For public equity/private equity real

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estate and high yield based on the historical data real performance is on average negative if leading economic indicators are pointing downward. Forward looking financial markets move ahead of actual GDP. What are coincident or slightly behind leading economic indicators and that's why this metric is used here. We get GDP quarterly. With a lag there's a richer information set in this monthly leading indicator series that better lines up with the outcomes of financial markets than if we use quarterly GDP which is lagging. Typically markets move ahead. We didn't see markets down, turn down, before recessions are announced and we see markets recover before recessions end. I also want to note here with respect to growth government bonds in the historical data are a unique asset class given historical relative insensitivity of their performance over the business cycle. Going to too much detail here with this methodology to breakup the leading indicator time series simply to partition between periods where we see the leading indicators growing and where we see them falling. And what does that look like relative to recessions to the extent that you could see, probably see it better in the book than on the screen here. Uh the leading indicator series there are several points here where the model measures a contraction regime and that's where you see the spike up in the, the outlined areas not the gray bars which are actual NDR recessions and I think it'll be pretty clear here that the leading indicators pick up a contraction regime before we see GDP go down and as such it's a more useful metric for thinking about how financial markets perform relative to these LEI regimes than just GDP growth.

This is a chart; total return series of the S & P 500, I'm sorry the MSCI World total return index and the Barclays Government Bond aggregate and what you should be able to pick out here is that in the areas where you see the gray bars which are the contraction regimes is often a period where you see a big move down in the equity returns; the bond series it's less volatile so you don't see as big of moves up or down but if you kind of focus in on where you have the downturns it generally holds its own and more recently actually as Allan alluded to bonds outperformed in the recent economic downturn.

Now let's look at over decades just equity returns in this case and what the behavior was of this LEI regime over the decade generally and what the subsequent return was on equity returns. So the percent of months here that you see in the column where for the whole period it's 23% that's the percent of months where the model measured LEI was slowing down. It doesn't mean we were in a recession. It means that the economy was slowing down and for different decades we have different percentages. The 70s was a period where we had quite a bit of economic volatility. The model picked up a lot of periods where the economy was slowing down. The compound annualized real return in the 70s was negative. And then we had the 80s a period where inflation was falling, growth was picking up, we had very good real return in equities; the 90s even better. And then the period of the last decade which has already been talked about some was a very poor period for equity returns. Not surprisingly it

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was also a period where we had a fairly elevated number of months where there was a slowdown in the economy.

Now looking at a number of asset classes specifically beyond just government bonds and equities there's a very clear relationship here between risk assets and economic growth or at least the economic growth picked up by the leading economic indicators. For the full sample everything is positive. Actually we'll see some other information like this. The return is fairly tightly bunched in real terms. In the regime of growth growing economic indicators risky assets do the best on down the scale where at the other end we have government bonds and TIPS still doing positive but much less better than the riskier assets. If we had a regime of contracting leading economic indicators everything flips over and the only things that are positive are the higher quality, well, the less risk fixed income categories and then TIPS here. Now with TIPS we have a limited data series from 97 so there is a modeled version that lets us match up the data series here going back. It's a function of nominal interest rates and expected inflation but it ties very well in sample so we have some confidence it's a reasonable picture of what would happen in a period where we don't have the actual fixed data.

Now for some of the data it's a little harder to work with than monthly and where we have less history but the story is still quite clear here. This is for uh, CalPERS real estate AIM where we have the data. The actual quarterly data and then we also have a real estate index here that's similar to a core real estate index. The story is similar; periods of growth the returns are quite positive and in periods of contracting LEI it's the opposite with the AIM portfolio showing the biggest divergence in growth much like we saw with public equity.

Now a little bit on inflation. No surprise here we haven't had a lot of inflation to worry about in the last 20 years. In fact the talk now is potentially we'd be worrying about deflation. Inflation regimes are highly persistent. It tends to build in and the expectations build in and we have long periods of high inflation like we did as the graph shows here in the 70s til the yearly 80s and then the Fed was successful in choking off inflation expectations and we've had a fairly long period of moderate inflation. This is measured inflation year over year. It's been in a fairly tight range around 2%. What do expectations in the market look like now? Well they're pretty subdued. There's data through the end of September. These have ticked up a little bit but not materially for purposes of the time series here that we're looking at. Expectations are low for inflation and we see that in what the market is pricing. Here there are two different metrics which basically map each other. One is the difference between the real TIPS yield and the nominal yield measured in the 10 year treasury and then the other is a CPI swap which is a bet on the actual outcome in the CPI. They're quite similar and they're quite low. The expectation is that we're going to have pretty low inflation and there's a huge range of uncertainty around this. Again it's talk of deflation. The Fed is concerned about disinflation. There's a large cap on the other side that believes all of this monetary stimulus is creating a sure case for much higher inflation

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going forward. And we're going to talk a little bit about what that might mean for our capital market expectations in a couple of slides. Similar analysis by inflation; now as we saw in that chart a couple slides back the high inflation is concentrated in a period in the 70s and early 80s. So that's where the sample is drawn from that you're looking at here. So low and moderate inflation is all the rest of the sample from the 70s til now and then there's a period of high inflation in the 70s and early 80s. So using that data though we see that when we have high inflation it's very bad for risk assets. It's actually bad for uh, even non-risky assets like nominal bonds. The only things that'll hold their own in the historical sample are commodities and inflation protected securities which makes sense. You lock in just the real yield with the TIPS and then you're going to get compensated for the inflation. Commodities I've heard discussion a lot of levels why they're part of uh, why they look like inflation, why they're part of the inflation index. Historically they tend to lead inflation. You have run up in oil prices that's captured in commodities and that runs ahead of actual inflation as all prices in the economy rise.

Okay, this chart might not be easy to read on the screen uh, but in your booklets on page 12 I'll just very quickly uh, discuss what's going on here. This is a series of portfolios set up to identify these major risk drivers. They're not CalPERS portfolios. They are simulated port, well they're historical portfolios based on public market data, S & P 500, the Bar Cap Government aggregate; that's (indiscernible), that would be investing just in treasuries and then I've created an inflation hedging portfolio which is a mix of commodities and TIPS. Again, some of the TIPS data is simulated because we only have it back to 1997. We looked at this data through the decades just for equities. Here it is for bonds and for this inflation hedging portfolio for bonds. You were able to get a positive return except for in the 70s when inflation really hurt your real returns. And then we have these blended portfolios here. One thing that might be notable in the real return space as we saw in the graph, the difference in the returns for this sample they are not huge right? So the equity premium 1.7% over the Bar Cap Government again is a period where we had falling inflation, falling yield so it was particularly good for bonds for the full sample. This inflation hedging portfolio held its own in the 70s and that's because inflation was high and you were compensated for the inflation here. And then we have the blend, 60/40, 60% equities, 40% bonds; 40/60 is the opposite, and then 40/30, 30 is 40 equity, 30 bond and 30 inflation hedging. And, yes?

J J Jelincic:

In your blend of portfolios for the 40% bonds you're using the Bar Cap I assume?

Lorne Johnson:

Bar Cap Government Aggregate correct.

J J Jelincic:

Okay and then the equities?

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Lorne Johnson:
Is S & P 500 yes total return index.

J J Jelincic:
And what are using for the commodity?

Lorne Johnson:
GSCI, a good question and one could be critical of that in that it's basically a oil index. That's our CalPERS benchmark. There are other indices that could be more diversifying and maybe would have done better for you in the most recent period. Uh, underneath that uh, the bottom table are the volatilities uh, shouldn't be too surprising in that second moments are more stable uh, historically than first moments. Uh, you know the equity volatility is a very tight range there. A little more in some of these other portfolios but much more stable than the returns. Volatilities are much easier to forecast over long periods than the returns.

On page 13 is a simple return to risk profile of each of these portfolios. The lowest being for equity only. The highest and that's attributable again over the full sample period when bonds did very well uh, is the highest there, and then for the blended portfolios it's, it's higher than if you were just in equities.

And then on page 14 is a look at these specific portfolios during periods of recent financial stress. So starting with the 87 stock market crash which was clearly an equity market event, bonds would have given you a substantial hedge. The inflation portfolio would have had a positive return during that period. Um, I'm not going to go through all these but you know the relationship, the one period that was more bond specific 94 interest rates (indiscernible) fixed income returns. The most recent period which would be the most fresh in the memory huge equity market drawdown. You held your own in government bonds. Your inflation hedging did terrible because commodities got absolutely slammed in 2008. So what are reasonable capital market assumptions under different economic scenarios which are forward looking which we don't know? We can guess. We can say, "Well it seems like we're in a slow growth environment maybe we're going to have some deflation." Or you could be on the camp that, "Gosh are the Feds crazy? We're going to have a raging inflation in 3 years." Very different scenarios.

The other thing is what about initial conditions? Well those are things we can observe and we'll talk a little bit about that and how that informs the capital market assumptions looking forward. Now what I have here, scenario 1, is base case. These are the capital market assumptions that were presented in June and revised in September. They are base on the input of the staff team, the consultants, and an eventual coming together of the minds discussing the pros and cons of each of those inputs. Uh, what scenario these anticipate you know I,

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I would say something like the history of what we've seen. In fact, I was looking at this just a little while ago. That 4.38% real is something like a 50/50 portfolio. So it's in between the 60/40 and the 40/60 portfolio that, that was presented a couple pages back. There's an equity premium here of 4%. As mentioned earlier the fixed income assumption was brought down which made that equity premium bigger because we have such low yields. The 10 year yield's about 2.5% this morning. We have a 3% inflation assumption which it'll be something else as all these forecasts will be. It could be lower, it could be higher. Right now we have 1% year over year CPI. So to get to 3 in 10 we actually have to get some pretty decent inflation in the out years. Now I mentioned initial conditions and how they can inform our forecast or our expected returns. Well starting with probably the easiest case and I'm not saying this is easy but historically the correlation between yield to maturity on the 10 year yield, the 10 year treasury which is what I'm looking at here and subsequent 10 year returns is correlation of .92; pretty high. So I think we're quite reasonable in how we're approaching our forecast on fixed income and the 3.75 is roughly reflective of the yield to maturity on the fixed income portfolio at the time we presented it.

How about earnings yield? Well, it's not as good but it's pretty good. It's informative. If you have a very low earnings yield that's going to be a smaller input of your expected return than if it was higher. You'll see a couple of examples of that historically and another truth is that over time valuations go to the mean. This is the Schiller PE; it's a rolling, it's looking at price versus rolling 10 year earnings and the midpoint in this is 16. We're a little above that right now. Nothings like the extremes we had in 2000 when we were at 43 or in 1980 when we were much lower. There's a chart with that in just a moment. So initial conditions are important. They inform the decision looking forward. So let's think of the case 1980. 10 year Treasury bond yield 11%; the dividend yield on stocks was 5% so as a starting point we could have expected at least 5% just from dividends. The earning yield much high than that. The Schiller PE I mentioned the long term average was 16; we were at 9. So from valuation adjustment we should have expected some positive return for that. So taking those different pieces on what I'll loosely call an income growth valuation model uh, we're going to get 5% from dividends. We'll say 2% real per capita economic growth and 6% from a valuation adjustment just to the mean. With that model we would have expected a return on equities of 13% for the decade. We got 10.5%. How about 2000? Well the treasure bond was 6.5%, dividend yield 1.1%, not much there; earnings yield 2%, PE 43 so putting all those inputs in in the same way we would have expected a negative return 5.5%. Well we got -3 so we actually did alright compared to what the model suggested. How about 2010 where we're at right now? Well we already mentioned the very low bond yield. That's not part of this equity return estimation but it's referenced in terms of where yields are. Dividend yield is pretty low 1.8%, earnings yield a little better, the Schiller PE is a little above average so putting all those inputs in maybe a real return of about 4% which is about where our capital market assumptions are right now. But who

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knows what's going to happen in terms of economics and there's inflation rising/falling? A huge divergence there in expectations.

So let's take this basic framework and think about some different scenarios and what could happen. We have our base case which is the best opinion of a wide group on their best assessment of what's going to happen. What if we deviate from those? So in the first case I take an optimistic scenario. Let's say inflation is low, is actually lower than what we expect but stable, no deflation and growth is great. Now this is not a consensus outlook. I wouldn't put a probability on this it's just for example purposes. Look, if we do that we get a uh, equity return 10.5%. Only a little deflation on that we get a real return of better than 7. That's almost 3% better than the base case. Again these inputs are based on a very simple model so for the, the fixed income portfolio we actually don't see a big acceleration in inflation so that's, that's good for the fixed income portfolio. The growth helps your, your public equities and everything else.

Now we talked a lot earlier about potential deflation scenarios. So what if we see something like a Japan scenario? The economy just kind of muddles along, we're working at you know 1.5, 2% growth, kind of what we're seeing in the second half of this year and the inflation thing just never kicks in and I'm saying 1, 1% inflation. In Japan we've had negative rates of inflation, deflation for getting close to 20 years now so it's something that can last. What are the returns like? Well for fixed income it's actually not the worst thing. There's no move up anomaly you'll see; from where we're at right now this would actually suggest further appreciation, capital appreciation, based on the yields going lower. And then for equities very poor growth is an input so we can't expect much there. There's negative equity premium and that passes through into the other risky assets. Now on the other side; and for real returns well it's a fairly subdued 3. That, that might be a little optimistic if we really shifted into a deflation scenario. But that would kind of be a scenario where we don't get any traction from where we're at. We just keep muddling along like we're going.

Now under a 70s like inflation well the nominal returns don't look that terrible but in real terms you're getting almost nothing and from the 70s we saw for equities we can get negative and these again are maybe reasonably optimistic what we could expect if we really moved into an environment of, of much higher inflation. So here I have 5%. That's taking us from 1% now we'd have to be getting close to 8, 9, 10% inflation somewhere in the out years to get a 5% number for the full period assuming there's, it's a gradual process. That we don't wake up tomorrow and just have 5% inflation for the next 9, 10 years.

So in conclusion hope to convey here that investment returns are very dependent on initial conditions and the prevailing economic environment. Periods of low growth and high inflation present risks to the current CalPERS portfolio. We don't know those are going to happen, in what form; there will be some rate of growth, inflation that's different than our capital market assumptions and that a

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more flexible asset allocation structure with the abilities to directly hedge growth and inflation risks is a more robust framework to respond to changing economic environments. And I believe that we are bringing that to the table today with the alternative classification. We are specifically identifying a new bucket to consider growth risk, growth hedging, and doing a more precise job in setting up and inflation hedging portfolio. Now, I'll be happy to take any questions. Yes?

Tony Oliveira:

I have a marco question but I – during these times of planning as you did today and I understand the example that people tend to want to compare and look at the deflation and the flat growth in Japan. Is that really a realistic view of what can happen in the United States? One thing the Japanese don't have, will never have, is a large base of natural resources and if you are converting other peoples' resources and the products to the world you can get into that cycle but do you really see that that is a probability in the United States with such a large base? Even though we may not consider ourself to be a large oil base natural resources but with our agricultural bases, mining and so on, do you see a differential there?

Lorne Johnson:

I think the differences between the U S and Japan are huge. I would also say that I would not, here, assign a probability to any of these things happening one way or the other. They're for illustration. I think the example done here was a U S version of the Japan style in that we didn't go to deflation and returns weren't quite as bad. It's just more of a lethargic outcome than what perhaps the base case is suggesting that we get to some more moderate traditional rate of growth. But I agree that the differences between the U S and Japan are substantial. The way the Central Bank is reacting as they perceive as the risk of deflation is very different and the pace at which Japan reacted to that and yeah the demographics are very different, the economies are very different so agreed and the examples here were not forecasts nor were there probabilities suggested; just to give an example what could plausibly happen.

Farouki Majeed:

Just uh illustrative (indiscernible) we would uh, uh you know I, I would probably assign a low probability to that but you know coming out of the crisis there were many people who really thought that that's really the scenario for the U S. primarily because of the fact that, that economies that are impacted by both, not only a stock market crisis but also a real estate crisis and there are a number of cases that, where this has occurred together and those tend to be uh, those tend to impact the economy really badly and we are seeing some of that because the growth coming out of the recession in the U S is much lower than average of all prior recessions in recent history. This is because the impact on the economy is so severe that you now issues of unemployment, growth and all that is, is ... so there were times when people were thinking that perhaps that kind of scenario is fairly probable in the U.S. but now as, as time goes on and the aggressive

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actions that our Fed has taken we, it's probably a lower probability. Uh the dip, the double dip scenario is also a probability now, a much lower probability. A couple of months ago there was a, a fair amount of speculation with regard to you know a double dip scenario. So uh, but this case we just do illustrate that if we would have had uh, that kind of a scenario what might be the impact on the returns so it's just illustrative. I think you had a question.

Priya Mathur:

Thank you uh, have you put any, I'm sure you have but, what thought have you put into potential federal economic policy around very aggressive debt reduction if the Feds were, if the administration were to really pursue that or a significant decrease in uh, stimulus funding and support type uh, funding at the Federal level? Would that, do you expect that that would have a positive effect on the economic growth or a negative effect on economic growth, if you know anything about that?

Lorne Johnson:

I think the best answer I could give on that is that we in the asset allocation group are active in following developments, in trying to provide informative input to staff on what is going on, and to, as conditions change, to, to think about how that could affect the portfolio. I don't believe that something that we're talking about today, and that our horizon is different in that, that more dynamic framework that I think you now going...

Priya Mathur:

I know we, I know we just had an election.

Lorne Johnson:

...for the long run and maybe Farouki is better to.

Farouki Majeed:

I, I think uh, just to add another point; I think the very aggressive action taken by the Fed on QE2 is really unprecedented indicator, you almost have to go to 30 to have that kind of action. I think it, that they're desperately trying to forestall you know, those kinds of bad uh uh, scenarios and the point that you mentioned about the stimulus being sort of withdrawn I think uh, so the monetary policy uh, rather the fiscal policy is almost now in gridlock and you would not expect any of that to happen so I think that's why the Fed's taken this approach to make sure that they provide ample liquidity and low interest rate and (indiscernible) to continue to uh, not only lift up asset prices but also the, the growth.

Priya Mathur:

I mean I know, I know that we just had the election last week but I, I guess I'm concerned about sort of a change in the prevailing winds around some of these major economic policies and what that, how that could impact the U S economy over the next few years.

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Farouki Majeed:

I mean we would almost rule out any further stimulus obviously but within the, on the, on the fiscal side uh, withdrawing anything further I'm not, I'm not sure about this (indiscernible)

Priya Mathur:

I don't know either.

Farouki Majeed:

But the Fed seems to be pretty uh, consistent on, on the way they're approaching it.

Joe Dear:

There's no history to allow us to forecast based on prior experience with conditions like we have now so it's a judgment question and I go back to the animal spirits. One argument in favor of significant contraction is to restore faith in the financial integrity of the U.S. and the certainty of the its ability to meet its financial obligations with all that debt in which case if people believe that's going to happen and they make investments the economy will grow. The counter argument is with this much contraction in Federal stimulus effectively you know no new stimulus at all that the economy will contract and that jobs will fall and that the psychology of people will become more negative, they won't invest and it will spur contraction. The only actor in the system now that's relatively free to move is the Federal Reserve and they're taking steps to forestall deflation. Presumably the market priced in the election result because it really didn't change that much post the election so you could see it coming ahead and so that forecasting ability to market.

It goes back to this discussion we had about dynamic allocation and what do we see in a 2 to 3 year timeframe in terms of expected economic outcomes but there's no model that Dr. Johnson's going to be able to bring to the table and guide us uh, in terms of how to view what the policy, the economic effects of the policy choices are going to be made.

Farouki Majeed:

One reason why if (indiscernible) we conduct a sort of an annual review of uh, the you know what we see as the economic environment that's unfolding and if uh, expectations for asset returns have changed and so on so I think you know in a more uncertain environment you'll probably want to look at this more frequently rather than assume a normal path over a long period of time.

George Diehr:

We look back at slide #5; uh, this doesn't seem to make a very good case for uh, equity premium. I mean we're starting, I maybe set those two indices at the same place but in any event so they start in the same place and they end up at

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the same place as what you have with the red line uh, SCI World Index there uh, sort of looks like bubbles and then it seems to be drawn back to the bond line. Now, if you, and furthermore since the – whenever the red line is above the black line, I mean you work from the red line up to the current place; any place the red line is higher return is lower over that period so if you unfortunately jump on in one of those peaks; so uh, so why did you pick this graph (laughter)?

Lorne Johnson:

It's simply to show the history. I, I take your point that yeah after this period, a period that in the end was uh, saw a huge drawdown in equities with the endpoint is where it is and I'm not making the case for ...

George Diehr:

Yeah.

Lorne Johnson:

...investing anything it's more, 'hey this is the sensitivity to this time series that we looked at and clearly one of the series is more reactive than the other.

George Diehr:

Is it, could it be a starting point? I mean if you were in January of 75 instead that would, that would...

Lorne Johnson:

Sure anything's quite a bit...

George Diehr:

So I don't, I don't know what happens to the prior to January to January 73. Maybe this was, I don't know.

Lorne Johnson:

Yeah January 73 was the beginning of a pretty horrific recession and...

George Diehr:

Oh, okay that's why you...

Lorne Johnson:

...that drew down the equities so your starting point was one where equities got hit really hard and then we finished with another period that was similar.

Farouki Majeed:

So if you go back to page 12 it showed the annualized returns.

Lorne Johnson:

That's a different series.

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Farouki Majeed:
Is that a different series.

Lorne Johnson:
The S & P 500 forward is different from the MSCI World.

Farouki Majeed:
This is MSCI World right?

Lorne Johnson:
Correct.

Farouki Majeed:
Yeah but if you just look at S & P 500 over that period you have 4.9%.

George Diehr:
Yeah little bet, little better than the Barclays.

Farouki Majeed:
Just a little bit of a premium but I think it's the, it's a time thing so it's specific to the time period this relationship but normally people would uh, would argue for the equity is premium based on a much longer uh, time frame going back many decades? Uh, but one of the reason I think is that it's, it's sort of been coming down. We are seeing something like a 4%. Allan has a comment.

Allan Emkin:
(indiscernible) remember 1982 the World Treasury Bond was worth 16% and today it's less than 4. For that to occur think of where interest rates would have to be at the end of the period. And interest, in theory equities can grow infinitely but bonds are limited by their yield and that's, that's the big story. And it goes back to Lorne's whole comment that you have to live with where you are today and today you're at the end of a extremely long low rate of interest rate cycle and even if it's flat then we start from yield to maturity on, on par and that's the issue.

Priya Mathur:
Hey Allan or generally people should come to the mike.

Allan Emkin:
I'm sorry.

Farouki Majeed:
Does that uh, answer your question Dr. Diehr?

Dr. Diehr:
Sort of. Alright any further questions, J.J?

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J J Jelincic:

Yeah I noticed in the scenarios that the one that seems to be missing is slow growth and high inflation which I think is something we need to seriously think about given the current political environment. Joe the other question is how much of this is a baked cake?

Joseph Dear:

How much is a baked cake? That's an analogy that I've used in certain settings where staff does so much work that a Board of Trustees can't unpack it so it comes to you as a baked cake and I assure you that not our intention to present this as a, as such because we are asking you to think about alternate classification and we've prepared models and portfolios that go either way and we certainly left open the question of how much risk in the portfolio and we've added dimensions to that risk beyond volatility and we've looked at a series of portfolios. We're going to focus on 8 or 9 but you can see they're probably already what, we have 40 different portfolios of different circumstances so I'd say there's a lot of flexibility for you to mix and match here.

Goerge Diehr:

Go, go ahead, excuse me go ahead.

Tony Oliveira:

Because of what? (indiscernible) said a couple things said I, I know, I know this is understood but I just wanted; we can be concerned about the political environment that just started here in the United States but we need to continually remind ourselves that we are a global investment and so we need to plan not based on what pushes in the United States. It's a part of it of course but if we are truly global investors that we need to take a pull on one side and maybe a push on the other. Some reactions by the United States even though we are a major player we are not accumulative the major player any more. We are part of and so as we discuss that we need to always make sure that we remind ourselves of that.

Priya Mathur:

Yeah but we're only. as we heard earlier, we're only truly global in public equities. In other asset classes we're not.

Tony Oliveira:

To this point.

Priya Mathur:

Yeah.

Joseph Dear:

Quick data point – I was advised that the A Portfolio was about 30% international today.

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Farouki Majeed:

I think we'll have a chance to discuss the asset class strategies in light of the uh, framework that we are proposing in the next session so there'll be plenty of opportunities to answer these questions. Okay so moving on to the next uh, I have my colleagues. Thank you very much.

So uh, we've discussed a number of times uh, what the alternative uh, asset classification that we are proposing is. I think if you look to the lower right hand corner of this slide that's what that is and we just show what the current targets are and so on and so on. And this is a, an equal end portfolio on the board classifications in terms of expected return and risk. So one may look at this and say, "Well, you know quantitatively it's not a big shift but qualitatively it's a big shift." I think that's a point that Adam made and that's what I want to come back to and you asked this questions Mr. Jones in terms of highlighting what. So this is in a quantitative sense these two are equal portfolios but qualitatively they're different in the way that we will, we will begin to look at these asset classes and the way that they will...

Henry Jones:

Why is it that fixed income is under the current is part of equity?

Farouki Majeed:

Uh, I'm sorry it's under income.

Henry Jones:

Combined equity you get 63%. Isn't that the sum of those three numbers up above?

Farouki Majeed:

No it's public and private equity. So it's the 49 and the 14.

Henry Jones:

Okay, okay.

Farouki Majeed:

Okay, so uh, moving onto the next item, I apologize this is a very busy chart but this is part of the framework that, around which we had discussion in our investment strategy group in terms of the role of asset classes and so on. So what we're trying to say here is we identify growth, inflation, and real rates as key macro risk and what are the sensitivities of the asset classes to those risks? So for example in the case of global equities a very high sensitivity to economic growth as we showed it before; also the inflation probably a moderate sensitivity to rates and so on. On the other hand uh, if you come further down you look at treasury or government bonds and, and TIPS they have low sensitivity to economic growth uh, and TIPS will have a high sensitivity to inflation and so on.

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So that's the way we, we try to sort of map this, the assets, into both the risk framework as well as the broad characteristics. Uh, anything – it was important for us to understand the strategic role of asset classes for the, the, the SIOs in terms of how they would think about developing their strategic plan for the implementation plans in terms of how they fit into the total portfolio. Do you have a question?

J J Jelencic:

Yeah, on, on real estate uh, low interest rate risk ; I assume that we're assuming leveraged real estate in this discussion. And Ted as it's being recorded I'm going to note your 'yes'.

Ted Eliopoulos:

You're going to get lots of opportunities for that today.

Farouki Majeed:

So in terms of the characteristics of the assets we want to look at uh, yield or the income part for the return and appreciation. Uh, and liquidity and the inflation protection and so on and we won't (indiscernible) the extent that leverage is present in the asset classes in the way they are implemented. Unless there are any questions on this uh, I will move to the next slide. Yes?

Tony Oliveira:

I just want to ask when you guys went through this process how did you weigh the, the slide that was there earlier which still sticks out in my mind where the differential and what is being paid in as what is being paid out since there is a shortfall and obviously appreciation doesn't contribute to that only cash does. How do you, how do you work that into your decision processing?

Farouki Majeed:

Yeah so uh, I think Ted will, will outline uh, what, what the implications are. For example, for real estate so I think uh, I think what he would say is that there's going to be a shift in emphasis to core real estate, income oriented properties and so forth; stable income in real estate and we would look for the same in the other real asset categories as well as the global fixed income portfolio. Um, but you have to understand that the allocations to go there is not that large now and they're not going to be that large going forward we think. So the target yield for the portfolio is still somewhere around 2%.

Tony Oliveira:

And the reason I ask that is that if, if we asked Allan to lay that out for example the next 24 months dealing with (indiscernible) and the rest of you the way you worked at it and you projected that, that deficit, I'm just pulling ;this out of the air, uh, that differential would continue for 24 or 36 months and being an index fund on the global equities are really in the mode right now to build the equity growth back so where does that income stream come from? I mean I know we have an

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increase because one of the projections that should lay out across that 24 months citing is July 1st of 11 because our core contributions are going into that substantially at least for the locals at that time. What I consider to be substantial. So you got to figure that into the formula but those two overlays have to really kind of look at each other of what's going to be coming in from employers to work against that and whatever strategy you pick now if that's going to work over the next 24 months because that differential you have to make up that differential.

Farouki Majeed:
Yes that's something...

Curtis Ishii:
Can I cover that a little bit? I think that Farouki created or expanded the liquidity bucket and the liquidity bucket is intended for that exact purpose because what we found was that during kind of volatile environments that uh, it was difficult for fixed income which traditionally provided the liquidity for a lot of the fund to handle it. So that size of that bucket will kind of determine how much liquidity, cash needs and it comes at a cost because it's lower expected returns versus it comes from even fixed income you probably have I would say 100 to maybe even 200 basis points difference in returns. If it comes equity it would be even larger. So that tradeoff I think will begin to happen tomorrow and, and Farouki talks about liquidity and the need for that and the cash shortfalls and all these things so it's all getting incorporated.

Farouki Majeed:
You asked where would you get the income from? So we're assuming roughly a 2% yield on the dividend yield, on the global equity portfolio and then most of the return from fixed income they give us in here is a yield, current yield to maturity. So that's why I said if you combine all of that roughly gives out about a 2% yield return on the total fund. So if I expect a return of 7.5% roughly about 2% of that is, is yield oriented. So 2% of 200 billion roughly give you about 4 to 5 billion dollars of annual investment income but we are trying to enhance that in certain areas like real estate and so on so we'll speak to that. So with that John I'm going to turn this over to Eric Baggesen and talk about real equity.

Eric Baggesen:
Well good morning. Welcome to our 3 year asset liability exercise. Farouki asked us as SIOs to really talk about what are the sort of bottom line implications if we think of this in this sort of risk characteristic and I think what pretty much everyone in this room agrees with is that equity is highly correlated with growth risk. I mean that really is, you know this is probably the most simple translation of what is the asset class represent into the risk area and that is defined in the uh, in the role of the asset class that you see on page 4 of your presentation. Which, are we moving with the right arrow, or the left arrow?

Farouki Majeed:

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Right is up and left is down.

Eric Baggesen:

I'm actually going to skip a slide and point you to page 6 for a moment because this got out of order. I wanted us to refer back to the work that Rob Arnot presented to the Board in September just as an illustration. If you look at the 1982 through 2010 time period and again this is based on work that is very much U S centric but if you look at it you have the sources of return that happened over that almost 30 year time period and a total return for the asset class of equities of 10.6%. One of the things that really stands out in this is the valuation component, 4.4%; that represents an expansion of PE ratios and in large measure that expansion of PE ratios happened because of the fall of interest rates from the double digit area into the low single digits. Arnot would have you believe that is not a likely occurrence to happen again so that, and again I'm pointing this, this is Arnot's work. So if we think about the 2010 to 2015 sort of time period and again using Rob's numbers you see a much more constrained return expectation for public equity as an asset class. So the real implication for us is if you believe this work of Arnot what do we do? How do we migrate this asset class and try to uh, enhance the real drivers of return in this segment? Hopefully I flip back to the implication page here. So there are a couple of different ways that we can try to increase the return on equities. Again if you just accept Arnot's work in a low return environment. So one possible mechanism that we could use to try to enhance the return on equities is to sort of try to take advantage of market inefficiency and treading you know value added activities. I have a degree of skepticism that we can find enough value added activities in order to really make up the return difference. There is absolutely no reason to believe on a systemic basis that inefficiencies are going to continue to exist that you can profitably take advantage of so we need to be a little bit circumspect in what we aspire to do. We're also hindered by a large capital base. When you're trying to move around approximately 100 billion dollars it's hard to find anomalies that can sustain those kinds of capital flows. The moment you attempt to deploy the capital into the anomaly you start to make that anomaly disappear. So your very actions serve to make the market more efficient which leads us to the second implication and this is what I really believe is, is going to be the task for global equity in the coming years is to really try to identify implementable increase of exposure to actual underlying systemic economic growth and that's really where we think the large measure of, of our value added is going to come from. And when I say value added particularly think of that in context of the more U S centric portfolios that many of our peers operate.

Okay, so when you think about returns and equities the return happens because of the underlying earnings generated by the companies in the portfolio. We do not have a good source of information that gives us earnings expectation going into the future. So one of the things that I did was to look to the IMF, the International Monetary Fund, and look at their estimates for Gross Domestic Product growth and I'm using Gross Domestic Product growth as a proxy for

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earnings growth thinking that one will play through to the other. Obviously it's a less than perfect correlation. What you see on the first column on this page, and I've listed this out sorted by the geographic regions that we are typically exposed to in the public equity portfolio. When you look under the FTSE all world, all cap column this is our current allocations so we have approximately 43% of the portfolio allocated to the United States. In the developed world outside the United States is another 46% and emerging markets represent approximately 11%.

The middle column, the IMF 2010 GDP, is a reflection of the IMF estimates for where this current year GDP numbers are going to fall. So you can see the United States is a 20, call it 24% for the sake of simple numbers. If you actually looked at GDP weighting going back a decade or more ago United States represented over 30% of that global GDP. So the United States while obviously the main, the main participant is not necessarily going to be the driver of growth going forward. Its role has been diminished at least to some extent. When you compare the 43% of our capital portfolio against the 23% or 24% of GDP growth that would tend to lead you to believe that the United States has a much more highly evolved financial marketplace. So we have, we have a lot of companies that have raised a lot of equity capital in our, in our markets. And that's very significant actually when you look down and think about where the development of financial markets is going to happen in the future. So the developed world outside the United States more or less in parity between its financial market development and its GDP. The emerging markets way under represented in the terms of financial development. And the frontiers markets, and the frontier markets are, represent almost 136 uh, countries that are not currently included in our global equity portfolio. Okay and we have 47 countries that are included in that portfolio currently. But the frontier markets actually represent a significant and growing piece of economic activity albeit still coming off of a small base. So if we are going to move into an environment where we're going to try to emphasize economic growth in this portfolio I, well you know if you just look at growth in of itself you would see a lot of small countries that are growing very rapidly. That is not something that can be conceptually deployed in a CalPERS portfolio. So I created really it's just a very simplistic factor that looks at the IMF's forecast for 5 years GDP growth times the size of the Gross Domestic Product of a country to begin with. So you're looking in sort of dollar terms and this is all in U S dollars. You're looking in dollar terms as to where growth is going to come from over the next 5 years and that's what this last column represents. So the United States will represent according to IMF estimates something like 18% of the global growth that will take place. The developed world outside the U S approximately 26%, emerging markets 46%, and the frontier markets somewhere around 10%. So it's quite apparent that our portfolio is not necessarily deployed in a way that is consistent at least with the IMF's GDP growth estimates.

So what does that mean and what kind of growth is even potentially available? I took these weights and converted this relative to the IMF growth estimates so

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that you can the contributions from each area and the underlying growth that is implied. So based on our FTSE all world all cap weightings the United States would contribute about 1.8% to economic growth and you can see the numbers from down the page to a total of 4.6%. if you weighted the portfolio based on gross domestic product that growth now comes down because you'd be taking capital from the United States and moving it into other places around the world particularly the emerging markets you would see that growth expectation moving up to about 5.6%; so 100 basis points of increase. And if you really desire to emphasize growth in the portfolio you would weight this again maybe based on some kind of a factor and I'm not suggesting that we actually use that factor but just as an indication if you really emphasize the growth in the portfolio then you could drive potential underlying GDP growth in this thing up to something more like the 7% range. Now is that implementable? Chances are not because simply a lot of that growth is coming from the frontier markets and I think that we have to tread very, very cautiously into those marketplaces. Even in the emerging market space we have to be very, very careful about the implications for both the ability to repatriate capital, exchange rates and a lot of other different aspects in this portfolio. But this is really, we think a large measure of our job is going to be to figure out how can we enhance the economic growth in this portfolio and there will be no simple answers to that but that's really the underlying opportunity for us is to identify where is population increasing and where is the standard of living increasing along with it? And I think that's really the opportunity to us.

Priya Mathur:

If I could uh, I just want to understand what you're saying. Is, is, the bottom row is total GDP growth? The total row is total GDP growth?

Eric Baggesen:

Yes the total row is, it's just summing up the contributions to global GDP growth coming from the different regions.

Priya Mathur:

Okay, and your, is what, is your, is what you're saying is your assertion that depending on the way we invest whether we invest according to, the way we do right now according to the FTSE all world, allocate our, our the global equity assets according to FTSE all world according to IMF uh, 2010 GDP or this third factor which you say is, is a proxy right now uh, that we would contribute to additional growth, we would be stimulating growth globally. Is that what you're saying or am I misunderstanding?

Eric Baggesen:

No this, no this is just saying that we would be participating in whatever return comes from...Participating in the growth that is occurring...the organic growth that would be happening.

Priya Mathur:

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Okay thank you that helps.

George Diehr:

But and the need to assume that it is already priced in it, the markets, that everybody else isn't thinking the same so you need obviously measures of price earnings or whatever.

Eric Baggesen:

You're absolutely right Dr. Diehr. If the growth in emerging markets is already valued...In the PE so for example if the PE ratio...if the PE ratio of emerging markets is far higher for example than that of the United States and that growth has already been discounted then there is no economic return value to us in doing that so we have to be very careful about uh, both the valuations at the time that you change capital deployment and about real capacity. You know do you true, is there truly capacity and is it a relatively safe place to be, for us to invest because nothing obviously could be worse than for us to deploy capital into a market and not be able to get it back. You know that, doesn't matter what the return is at that point if you can't bring it back here.

J J Jelincic:

I'm going to wind up asking another question of all the asset groups. The rest of you might want to think about it. What does PERS bring to the table that you need and how do we structure our portfolio to take advantage and get paid for the uniqueness that PERS brings and if we don't bring anything you need uh, then what does that say about what we ought to be doing with (indiscernible)?

Eric Baggesen:

Well it, that's a question that I don't know, that might be Joe's question actually. I happen to agree with you when, and what I believe and that CalPERS brings is the potential to have a very long term time horizon which allows us to potentially position our portfolio to be a liquidity provider so that we in essence become uh, we, we need ultimately to become contra-cyclical to what's happening in the marketplace. So if the equity markets are being sold off we potentially need to be buyers in that market place which means obviously we need to have a free up of capital to do that. There are, there are a number of ways that we can attempt to earn incremental on top of what we get from our, from our passive sort of index exposure in this portfolio. So we're looking at strategies that do provide liquidity, securities and lending is another area where we can, we can uh, make incremental return although we have to be very careful with how we deploy the collateral that underlies that security running portfolio but the lending activities themselves generate compensation. Uh, so there's a, there's a number of different things but again I am extremely circumspect as to what I believe we're going to add on trading strategies and these kinds of traditional active strategies and instead I believe that in large measure the private equity portfolio represents the active deployment of risk into enhanced return on top of public equities. So we, we need to be very circumspect and in the public equity portfolio right now

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we take less active risk than virtually any other segment of the investment portfolio and that is because the market is so efficient. There's not a lot of trading strategies that can add value so we just need to be very cognizant of that capacity.

Joseph Dear:

Very low cost beta exposure, very low cost beta exposure and the ability to take advantage of being a liquidity provider is the strategy. We're exploring plus this ability to select in certain markets, in certain conditions managers who can add active return and outflow return. The primary function of equity as it says here is just to capture the equity we're risk premium of beta return.

Steve Coony:

Um, I don't really expect an answer for this but it's uh, I think related to J.J.'s question and that is uh, all of the strategies you're talking about, all the packets, uh, have to do as they properly should I think but finding good decisions to make about where to find growth opportunities. My question would have to do, and I think it requires a longer consideration, about what do we do to change the base case especially in the United States? Do we have, we've been told we have an opportunity and the ability especially in concert with other like minded investors and of course this is, we've had some history in corporate governance and so on but I think it really has more to do with where we choose to lead in terms of some of the important economic factors that are, that we have to deal with including consumer spending in the United States, what kind of jobs, what kind of middle class we have? It seems to me we can, we can pick and choose among some of the opportunities as we come at it from the right um, I should say not from the right, the correct uh, and defensible uh, set of principles. Though again I think we can at least at the margins and especially in concert with others and especially in equities choose a course that might actually change the game.

Farouki Majeed:

Chairman, may I add a comment that uh, I'm trying to attempt to maybe add to uh, what's been said to Mr. Jones' question in terms of what's, what can CalPERS do? I think you really look at in, in terms of returns right? How can we enhance risk adjusted returns? Apart from the policy decision you make and, and what is the expected return on the policy portfolio I think there are two important components that add value to that return, to the policy return. One, it comes from your uh, your portfolio design and construction within each asset class. That's a strategic kind of a decision at the asset class level and that goes to the point that Dr. Dear was making I think in the beginning about how the sub-asset classes are allocated. Is that allocated very efficiently? That's one way to, to, to enhance return and I think that's appoint that Eric's trying to address is how to allocate the global equity assets across these different growth opportunities and then the next layer of course is the active management of the trading strategies where Eric is saying in the case of global equities that's not that high but that could be high in, in areas like private equity and real estate and so on so

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I think that we've got to look at these two, these two layers of, of value added and how we execute them.

J J Jelincic:

I recognize that each of the asset classes do play their assets a little differently. I mean one, it's not one strategy fits all but the point I'm trying to get to is PERS has some unique aspects to it, our size, our long term horizon uh, the two that really jump out. And so part of the question is how do we play to use our strengths as a unique individual? You know a unique institution and get paid for it? I mean if we bring dumb money to the market the street picks us off all day and so how do we say, "This is our strength and we bring something unique to the table and we want to get paid for it." and I think we need to address that in each of the asset classes. We are not simp, you know I don't think we, unless we believe we don't have any unique strengths that we're bringing to the market then we accept the beta return but you know, so that's you know part of what I'm trying to get to.

Farouki Majeed:

Thank you. We want to John, we can pass the...

George Diehr:

Let's keep in mind that we have, I assume they all take as long as global equity did but we try to keep our questions uh, ...

Joncarlo Mark:

Excuse me, move very quickly, uh, private equity has many of the same characteristics as public equity and clearly it's quite evident they're highly correlated. There are some additional risks associated with private equity including the concentration of ownership, higher leverage amount, and you also have a problem with lack of liquidity which, which is evident not only with the fact that we own private companies but because most of our investments are made through partnerships which are locked up and the decision to exit companies whether they're private or eventually go public is per the discretion of the manager. That being said uh, although we have concentrated ownerships in individual companies we have a very diverse portfolio if you include all the exposure we have we own probably about 8,000 companies within the AIM portfolio. Uh, and we rely on this concentrated approach, this value added approach, from our managers to align interests between them and management to focus only on value creation. Ultimately the theory around private equity is management usually gets a larger share of the equity of their company through options and they only can cash those in when they actually create value within their companies. That means there's very little, oftentimes probably very little uh, uh, value from income. It's primarily an appreciation asset class so one of the key elements and implications relate to the ability to find market and asset uh, inefficiencies, not just in equity although we're primarily an equity player but also on the credit side and that's played out to be pretty well over the last few years.

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Also as I said control and focus, active management of these companies designed to generate returns well in excess of what you can get from the public markets. Given the high correlation to growth with private equity of course our managers are seeking to find companies that have high growth prospects particularly smaller companies that can grow either through M & A activity or just organic growth that ultimately would be attractive to acquire as corporate buyers or eventually could go public, but another key element to the AIM program is restructuring aspects of the AIM program and that is our managers putting money to work when the economy is soft which we've seen in the last few years. We're able to restructure these companies and we'll position them to be more stable and grow over time. So you definitely need a economic tailwind for that strategy to play out but oftentimes when, when markets are, are quite soft as we've seen we're in a crisis this is an opportunity for private equity managers to go in and really capitalize on that situation. So again, still needs growth over time but there is that restructure element that's critical to our program. The risks of course because we're primarily a partnership investor are our ability to pick quality managers, the best managers top (indiscernible) managers particularly as our portfolio is a global portfolio and you know these are 10, 15 year partnerships where you're locked up with a manger for many years so it's important to both know those markets in Europe and in Asia as well as to know the managers. Particularly in emerging markets where there's, of course the distance in itself creates barriers but the rule of law is so different, the ecosystem is so different, different legal, different accounting, different banking structures all create uncertainty so it's very, very important to find the best managers and that is, that will always be a challenge for us. Leverage of course within the portfolio a big part of our portfolio. This leverage buyout portfolio will have a, will be impacted in soft economic times and uh, unstable capital markets also create a situation where you know we may have less liquidity when you have lack of stability in the capital markets both equity and debt market markets.

Farouki asked me to provide some, some perspective on commitments. Our current policy target of about 14%. We anticipate making commitments between 3 and 5 billion dollars but I think it's really important to note that this is about finding inefficiencies in the market and not absolutely being on target with our allocation some of which we can't control. We expect our managers to have the discretion to deploy the capital when necessary but it is important. There are time when we may want to make higher levels of investments and commitments when we see those inefficiencies versus times where candidly you could get a, a similar return or perhaps a better risk adjust return from the other asset classes particularly in, in the public markets and I think that really holds true when looking at specific markets and Joe used the example of Japan for instance. Second largest economy in the world happens to be a pretty poor private market because the ecosystem doesn't really work there for private equity so that's a place where the public market is just probably better off to find the capital in private equity.

Priya Mathur:

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Sorry I, I'm a little; I know we're under time pressure but I feel like it's our job to have a really robust discussion. So, okay um, a couple of things; one is sort of a fall in to what Steve said earlier and I think this is an area where there are many strategies which are really productive for the economy and then there are some strategies in private equity investing that can be damaging to the economy or might you know be, contribute to some of the uh, challenges that the economy faces in terms of recovery. So I think that's something that's a part of our discussion of investment beliefs that I think we need to have that conversation and uh, the other piece you kind of mentioned is pacing of investments and uh, one of the things that I think we need to be cautious about is uh, what, what often happens is that when everybody else is investing more we are investing more, when everybody else is investing less we're investing less. We tend to invest more during bubbles and less during troughs and that is not the kind of pacing that we want to see. So I understand that there might be times where it seems like there are more opportunities but I'm wondering if a more disciplined sort of year in, year out this is how much we have to be investing approach is actually a more appropriate uh, appropriate way to look at it or to deploy the capital. So I'm just challenging you on that Joncarlo uh.

Farouki Majeed:

I think that's the understanding we have between public equity and private equity and that increasing any allocations above their (indiscernible) is going to come from public equity would be the funding source for much of their growth so it's going to be very opportunity specific. So uh, I think that's what Joncarlo alluded to when he said 3 to 5 billion is that it's not going to be annual every year 3 to 5 but it's going to be based on the opportunity. And the cycle as you said is important because that's one of the lessons we learned from the crisis was that we allocated a lot in the frothy times because everything was going up and...

Priya Mathur:

Yeah I mean the cycle is important but it seems like we haven't always recognized where we are in the cycle and it's sometimes when you're in the middle of it it's hard to see where you are and no, but I mean I'm not saying that there are very many people out there who are very good at it but that's why I just have this concern about a fluctuating allocation. Maybe...

Joseph Dear:

That's absolutely right and the problem is not getting caught up in the enthusiasm. At the same time we were allocating more and more capital private we were raising the target so there's was no constraint there was always more to be allocated and there was never a question of allocating to which private equity strategy or another. Now we have the constraint because effectively we're at the limit in most of the portfolios. We recommend don't uh, include increasing it but just to show you that there are investment beliefs here. We haven't labeled them as such but one investment belief is that public equity markets are very efficient and it's hard to beat the market. So we do believe in private equity there are

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inefficiencies that can be exploited so those are two beliefs and furthermore that we have the ability to find those managers who are capable of exploiting those inefficiencies in private equity. To have that private equity exposure means we take on illiquidity risk and risk of leverage in order to earn that higher return. Those are beliefs that are in these two presentations that are core to the strategies that we're, we have been using in (indiscernible)

Farouki Majeed:
Move to fixed income.

J J Jelincic:
The, yeah I wanted feedback a little bit from Pria. Our investment in LBOs uh, I'm not sure is nearly as good for the economy as the investments we do where we're creating new money into business opportunities. Uh, it's you know, but that's a different discussion. What, what is unique about PERS in this space and how do we get paid for it?

Joncarlo Mark:
It's actually a really interesting question uh, I believe that CalPERS has, it's a huge brand, that uh, needs to be exploited even more, particularly internationally uh, again we invest through our partnerships and uh, it's, it's imperative that our partners, or oftentimes they court us aggressively because they want to have CalPERS as, as, as an investor in their fund. That reflects our commitment, long term commitment to that partner. It's a very competitive world when they're going out to try to buy businesses and I assure you if we're an investor with those funds they turn around and tell the companies or the families that they're buying those businesses from who care about what happens with the company after the fact that look, our institutional investor base includes CalPERS and it's, it's very, very important. Ways we try to leverage that is we have been very active with emerging managers, first and second time funds. We're having CalPERS as an anchor investor in those partnerships. It gives them tremendous uh, momentum in the fund raising cycle and as a new manager and they're again approaching; as they approach companies and they're saying you know, "We'd like to buy a piece." or buy your company along with management. Here's an opportunity they can say, "And CalPERS is one of our investors." and I think that shows stability and shows the quality of the manager. So we do try to take advantage of that.

J J Jelincic:
And how do we get paid for that?

Joncarlo Mark:
Well oftentimes when we uh, when we negotiate uh, agreements with new managers we do negotiate special economic agreements with them but at the end of the day it's our ability to find great managers who based on their

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investment judgment and their investment activities generate better returns than everyone else.

Curtis Ishii:

Thank you. So global fixed income's role is pretty much the same as it always has been. It's a diversifier for the risk that equity entails and provides income. I passed out something because there was a comment, Mr. Jelincic made a comment about fixed income and I wanted to show you this and it's very similar whether it's 1 year rolling, 2 year, 3 year. This is the rolling, only for those about 27% which is the corporate benchmark, so that's very small. The rest of it, of the fixed income is governments and agency pass throughs, Fanny and Freddie so they're less union and you can see that there isn't a lot of correlation with fixed income and that's naturally because there's a embedded, big income component in corporate bonds and so what I think Mr. Jelincic was talking about was during the times of crisis and how a lot of things go to one and, and spread, widen out so in general you can see from this graph, this is just a graph of those securities, corporate securities so non-treasury, non-government agencies and the correlation with that of the S & P. You can see that it's basically uncorrelated and, and that's not surprising so it seems to be, I wanted to you know put this to rest. It's being brought up that there's this high correlation and it's really not. So, and this comes to what the role of fixed income is, is because really we're trying to generate as we said the income and keep the correlation low with equities and provide some protection during market stresses and so what we've done is begin to change the uh, the degrees of freedom within fixed income to reduce the uh, the returns so that they're less volatile. Because right now in the past we had allowed much, kind of a natural uh, as if we were an external money manager and, and it was pretty wide in terms of ranges so we've cut those in half, passed it through the policy subcommittee. Also, that's going to take the returns down in terms of excess returns they have been around 60 to 70 and we think that uh, that'll probably be reduced in half but that falls along line of what Farouki wants and that, during market stresses this portfolio responds a little better. The second thing is, is this new idea, it's really not a new idea it's taking the existing liquidity portfolio which is right now being uh, put into short term securities and really putting Treasury securities into this. And as I said before the size of this is really function of, of a lot of the kind of less liquid nature that we've been moving in, moving towards in CalPERS and we have a higher private equity exposure and, and then this will also handle any kind of fluctuations and ranges so, in the equity portfolio, so you, you put equities within a certain range in the past and if it went down and we wanted to get the equity exposure up we'd have to sell fixed income and this will allow this to happen much more easily uh, you know because during these crisis many of the instruments, 30% of the instruments that we're in, fixed income is less liquid. So this new liquidity uh, bucket, it's really not new it's going to be occupied by Treasuries, is to as I said hedge the drawdown risk of equities, provide some income, provide some liability hedge and be a source of liquidity. So I'm going to answer Mr. Jelincic's question because I know it's coming and uh, fixed income has done this a long time ago and thought

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through how to take advantage of CalPERS' size, the liquidity, and, and the big thing is, is that we navigate in markets that the regular market doesn't navigate so, generally the markets navigate in mean and agg space which is to say shorter duration, shorter interest rate, maturity, space. You have decided 30 years ago to, to have us navigate in much longer duration space and it fitted CalPERS need for long duration or interest rate exposure to better hedge for the actuarial issues and so because we're in that area it, it allows to kind of uh, not compete with the PIMCOs of the world and, and it's, it's a little bit easier to, to uh, add some value. In addition, it's not a cap weighted index. It's a, it's a static index so 40% of the index in, in governments, U S Treasuries, agencies. 30% is in agency pass throughs, Ginny Mae, Fanny Mae, Freddie Mac so there's, that does not move and if you watch the Lehman Agg it's pretty dramatic in the way it moves up and down in terms of how much Treasuries so we, we have taken advantage of our size. We also lastly have a very, CalPERS has traditionally had a long term focus, when there are market stress we do adjust our allocations towards risk assets. So that's why you begin to see some of the higher correlations because we're legging into the trade. As spreads are widening, as risks, premiums are wider we start adding to that trade. Now we, like everyone, tend to be a little early and we've tried to slow ourselves down but at the end of the trade, end of the day when you look through the cycles I think our philosophy has been proven out and uh, so we're going to continue to execute our, our strategy but we're going to execute it in a much uh, with 50% less degrees of freedom.

J J Jelincic:

And thanks for asking the question.

Ted Eliopoulos:

Uh, let me just first start off, Farouki reminded me, so we're at the, I'm batting cleanup here so we're at the end of the presentation. I'm going to cover uh, the real asset class and I'm going to focus my comments on real estate. The infrastructure and the timberland ...

George Diehr:

Yeah you, you trim the forest discussion, not clear cut it.

Ted Eliopoulos:

...and I do want to put centrally in focus this rule of uh, of real estate because really uh, this year the focus of this committee and of Joe and SIOs are so centrally on the rule and of all the asset classes. It's probably the most meaningful and, and uh, transformative for real estate than the other asset classes and one of the reasons for that is simply real estate's 10% of the portfolio and really fixing the roles as you've just heard exculpated of the rest of the portfolio is very directional towards real estate as the smaller component of the portfolio. The second reason for that is given the very wide variety of things real estate can be. There's a, uh, we've called ourself in the past it can be a

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chameleon so there's a great variety of uh, of types of strategies real estate can employ so fixing the role of real estate, pivoting from the 90% of the rest of the portfolio is particularly important and particularly important given the experiences that uh, that we've just come through. Uh, so given that importance uh, uh, let me just highlight really three important things about the role of real estate. Uh, first, given the significant exposure to growth risk in the portfolio uh, real estate's role is to diversify that equity exposure. Second, the strategic role of real estate will be to deliver, and this is important, we talked about cash yield and income a lot today but to deliver the majority of its return in current cash yield to CalPERS, that gets to one of the questions Mr. Olivera was asking earlier, and that current cash yield should be reasonable stable year over year. And then third it's also a partial inflation hedge. So those, those are the three primary drivers of the role of real estate uh, that's before the committee. The practical implications uh, of that role for the real estate program is on a prospective basis, is that uh, the portfolio will be primarily structured in private real estate as opposed to public. Further, given the increase appetite for stable cash yield there will be a renewed focus on increasing our exposure to lower risk, stabilized real estate when we deploy new capital prospectively. So the uh, the summation of that is really looking at coming to this committee with a strategy, with his role in mind, of private portfolio focused on stable income producing core assets to deliver this role for the fund. I will say uh, given the existing role of, of real estate for CalPERS and the size and scope of our current portfolio this type of uh, transformation for the role of real estate will take many, many years to fully implement. It's a 5 plus year timeframe to fully implement and with that uh, I will; well, before that I'll get to J. J., Mr. Jelincic's question and then open it up questions. One of the things that has come out pretty strikingly to me in looking at the numbers is just uh, the uh, value of U S core real estate in the overall composition of this portfolio. The risk and return attributes of core real estate are a real uh, value to the overall fund and looking at our core competencies I think we can look back over a very long history for, for CalPERS uh, that one, the size of CalPERS and its long term nature particularly play into being able to build and structure and hold uh, U S core real estate over long periods of time to deliver two things; a return, a risk adjusted return 7, 8% over time with very low standard of deviation with the majority of that return being cash yield to the fund. Our size allows us to build substantial portfolios but allows us to do it in ways our competitors cannot. One, we are not uh, relegated to merely investing in open comingled funds. Our size allows us to build our own portfolios. Second, our size and time horizon allows us to specialize or pick property specialists within our core program so that we're not relegated to pick fund across property types but we're able to select uh, property specialists and we're able to I think select from among the best real estate operators in each of those property specialists. And lastly, that long term time horizon and our size allows us, should allow us, to do that at a cost uh, advantage over our competitors so that's, that's my on the fly response to your question. And with that I'll be glad to take any more questions.

Tony Oliveira:

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Yeah Ted I, I think probably with all of us but I know specifically what Steve and, and, have expressed many times uh, obviously we've gone through a rough time the last couple years in real estate like many people have but on top of everything you said and I think it's between the lines is that absolute alignment of interest with whoever we're partnering with which includes not philosophical things but it also includes that they're for the long term play and that during the cycles that they are not, because we are the limited partner in some cases, ones pushing us trying to move an asset that we don't want to. And I think what's really important over the next several years is that we build that kind of reputation out in the communities across this country and specifically to the United States is that when we come into your community to build something we're going to be there a long time. Because we necessarily because of some things do not have the reputation in some communities it just; and we all understand the circumstances of why but I think your strategy's on target and I, I think as we go forward and I know you will address this in your legal agreements and in who our partnerships are. I've been very pleased with my time working with you as the Finance Chair that, that we do build that. If we're coming into your community to build a, a real estate asset we're there for the long term play and it does answer back to that cash, that required cash flow that I think we're going to need over the next several years. Thank you.

George Diehr:

I see no further requests to speak here, no further comments from the panel. No? Are we...alright we are ready for lunch. Let's return at uh, oh let's return at 10 after 1, we'll take a couple minutes.